

ABSTRACT

Polynucleotides encoding mammalian ECM signaling molecules affecting the cell adhesion, migration, and proliferation activities characterizing such complex biological processes as angiogenesis, chondrogenesis, and oncogenesis, are provided. The polynucleotide compositions include DNAs and RNAs comprising part, or all, of an ECM signaling molecule coding sequence, or biological equivalents. Polypeptide compositions are also provided. The polypeptide compositions comprise mammalian ECM signaling molecules, peptide fragments, inhibitory peptides capable of interacting with receptors for ECM signaling molecules, and antibody products recognizing Cyr61. Also provided are methods for producing mammalian ECM signaling molecules. Further provided are methods for using mammalian ECM signaling molecules to screen for, and/or modulate, disorders associated with angiogenesis, chondrogenesis, and oncogenesis; *ex vivo* methods for using mammalian ECM signaling molecules to prepare blood products are also provided.